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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,035	12/27/2001	Gunter Ries	32860-000257/US	8621

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HARNESS, DICKEY & PIERCE, P.L.C.
P.O.BOX 8910
RESTON, VA 20195

EXAMINER	
NGUYEN, DANNY	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/033,035	RIES ET AL.	
	Examiner	Art Unit	
	Danny Nguyen	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10,23-29 and 32-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-9,12-19,23,27-29,32-37,40 and 41* is/are rejected.

7)☒ Claim(s) *10,11,24-26,38 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/28/2004 with respect to claims 1 and 29 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

2. The corrected drawings filed 10/28/2204 are accepted.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 12-19, 27-29, 32, 40, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamble et al in view of Dustmann (USPN 4,688,132), and Van de Klundert et al (USPN 4,709,314).

Regarding claims 1, 14, 29, Gamble discloses a device comprises a superconductor flux pump with a transformer (40 and 42), the transformer including, on a secondary side (42), at least one super-conducting coil (e.g. col. 3. lines 33-38) in a rectifier (44), and two controllable switches (32 and 34), and a super-conducting coil of an electromagnet (24), wherein the pump feeds current into the super-conducting coil, wherein the secondary side coil, the flux pump and the super-conducting coil are arranged in a chamber (30). Gamble does not disclose the secondary coil (42) includes superconductor material with high critical temperature as claimed. Dustmann discloses

a superconducting magnet device (fig. 3) comprises a secondary coil (33) includes superconductor material with high critical temperature (e.g. see abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the secondary coil of Gamble to incorporate the secondary coil having superconducting material with high temperature as taught by Dustmann in order to produce stronger magnetic field and reduce the loss of the magnetic flux. However, the combination of Gamble and Dustmann do not disclose the switches are coupled in parallel. Van del Klumdert discloses a super-conducting device (fig. 3) comprises switches (2a and 3a) are connected in parallel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the switches of Gamble and Dustmann to use the transistors which are coupled in parallel as taught by Van del Klundert in order to provide reduction of current carried.

Regarding claims 12, and 40, Gamble discloses the transformer includes a ferrite core (col. 4, lines 65).

Regarding claim 13 and 41, Gamble discloses the transformer includes no core (shown in fig. 2).

Regarding claims 4, 32, Gamble discloses the MOSFETs are selected such that MOSFETs with a low forward resistance are provided (e.g. col. 5, lines 34-50).

Regarding claim 15, Gamble discloses the MOSFETs are driven from main frequency (clock of the controller 36 shown in fig. 8).

Regarding claims 16, 17, 27, 28, Gamble discloses current stabilization is implemented by regulating current amplitude (e.g. col. 8, lines 10-26).

Regarding claims 18 and 19, Gamble discloses a predefined temperature is maintained for the switches (e.g. col. 1, lines 9-21).

4. Claims 5-9, 23, 33-37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamble et al in view of Dustmann, Van de Klundert, and Feustel et al (USPN 5,990,459). The combination of Gamble, Dustmann, and Van de Klundert disclose all limitations of claims 1 and 29 as discussed above, but does not disclose the transistors which are arranged on the thermal conducting material as claimed. Feustel teaches that using a plurality of transistors of the control circuit 1are arranged on the thermal conducting plate (42) (col. 2, lines 29-34), wherein the plate including a heat sink 52), temperature sensor (e.g. 32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the transistors of the above combination to use the transistors which are arranged on the thermal plate as disclosed by Feustel in order to reduce thermal resistance (col. 2, lines 30-34).

Allowable Subject Matter

5. Claims 10, 11, 24-26, 38, 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Nguyen whose telephone number is (571)-272-2054. The examiner can normally be reached on Mon to Fri 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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1/7/2005

BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800